CLAIMS

What is claimed is:

- A method, comprising:
 generating a time-stamp information cell at a first location;
 transmitting the time-stamp information cell to a second location via a network link;
 and
 receiving the time-stamp information cell at the second location.
- 2. The method of claim 1, further comprising synchronizing the first location and the second location with a coordinated time.
- 3. The method of claim 1, wherein generating the time-stamp information cell includes generating the time-stamp information cell utilizing a time-stamp generator.
- 4. The method of claim 1, wherein generating the time-stamp information cell includes generating a 20-bit time-stamp information cell.
- 5. The method of claim 1, wherein generating the time-stamp information cell at a first location includes generating a time-stamp information cell at a first access multiplexer located at a beginning of the network link.
- 6. The method of claim 5, wherein receiving the time-stamp information cell at a second location includes receiving a time-stamp information cell at a second access multiplexer located at an end of the network link.
- 7. The method of claim 1, wherein transmitting the time-stamp information cell to the second location via the network link includes transmitting the time-stamp information cell to the second location via an asynchronous transfer mode network link.

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- 8. The method of claim 1, wherein transmitting the time-stamp information cell includes transmitting the time-stamp information cell mapped with a same virtual path identification as a data cell.
- 9. The method of claim 1, wherein transmitting the time-stamp information cell includes transmitting the time-stamp information cell mapped with a same virtual channel identification as the data cell.
- 10. The method of claim 1, further comprising:
 re-transmitting the time-stamp information cell back to the first location via the network link; and
 receiving the time-stamp information cell at the first location.
- 11. The method of claim 10, wherein re-transmitting the time-stamp information cell includes adding a last received sequence number to the time-stamp information cell and transmitting the time-stamp information cell.
- 12. The method of claim 10, wherein re-transmitting the time-stamp information cell includes adding a last received sequence number associated time-stamp to the time-stamp information cell and transmitting the time-stamp information cell.
- 13. The method of claim 10, wherein re-transmitting the time-stamp information cell includes transmitting the time-stamp information cell mapped with the same virtual path identification as the data cell.
- 14. The method of claim 10, wherein re-transmitting the time-stamp information cell includes transmitting the time-stamp information cell mapped with the same virtual channel identification as the data cell.

- 15. The method of claim 1, wherein generating a time-stamp information cell includes: providing a cell containing a plurality of octets; utilizing a first set of the plurality of octets to hold an identifier; utilizing a second set of the plurality of octets to hold a transmit sequence number; utilizing a third set of the plurality of octets to hold a transmit time-stamp; utilizing a fourth set of the plurality of octets to hold a last received sequence number; and utilizing a fifth set of the plurality of octets to hold a last received sequence number associated time-stamp.
- 16. The method of claim 1, further comprising:
 calculating a time-delay utilizing the time-stamp information cell;
 building a time-delay distribution array;
 calculating a time-delay variance utilizing the time-delay distribution array; and
 calculating a cell-transfer rate utilizing a time-delay distribution array.
- 17. The method of claim 16, wherein calculating includes estimating.
- 18. A computer program, comprising computer or machine readable program elements translatable for implementing the method of claim 1.
- 19. An apparatus for performing the method of claim 1.
- 20. An electromagnetic waveform produced by the method of claim 1.
- 21. An electronic media, comprising a program for performing the method of claim 1.
- 22. An apparatus, comprising an asynchronous transfer mode network including a time delay information cell generator.

- 23. The apparatus of claim 22, further comprising a memory containing a plurality of time delay information cells.
- 24. The apparatus of claim 22, wherein the plurality of time delay information cells include a copy of a transmitted time delay-information cell.
- 25. The apparatus of claim 22, wherein the plurality of time delay information cells include a received time delay information cell.
- The apparatus of claim 22, wherein the time information cell generator includes:a main clock;a set of counters coupled to the main clock;
 - a synchronization signal source coupled to the set of counters; and
 - a time-stamp signal coupled to the set of counters.
- 27. The apparatus of claim 26, wherein the set of counters includes a plurality of counters that are serially cascaded.